# Complete Summary

## GUIDELINE TITLE

Primary open-angle glaucoma suspect.

## BIBLIOGRAPHIC SOURCE(S)

Glaucoma Panel, Preferred Practice Patterns Committee. Primary open-angle glaucoma suspect. San Francisco (CA): American Academy of Ophthalmology (AAO); 2005. 25 p. (Preferred practice pattern). [107 references]

## GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: American Academy of Ophthalmology Glaucoma Panel. Primary open-angle glaucoma suspect. San Francisco (CA): American Academy of Ophthalmology; 2002 Oct. 26 p.

All Preferred Practice Patterns are reviewed by their parent panel annually or earlier if developments warrant and updated accordingly. To ensure that all Preferred Practice Patterns are current, each is valid for 5 years from the "approved by" date unless superseded by a revision.

## COMPLETE SUMMARY CONTENT



## SCOPE

### DISEASE/CONDITION(S)

Primary open-angle glaucoma suspect

### GUIDELINE CATEGORY

Diagnosis
Evaluation
Management
Prevention
Treatment

## CLINICAL SPECIALTY

Ophthalmology

## INTENDED USERS

Health Plans
Physicians

## GUIDELINE OBJECTIVE(S)

To preserve visual function and enhance the patient's health and quality of life by detecting glaucomatous optic nerve damage early and by lowering intraocular pressure (IOP) in individuals at high risk for loss of visual function by addressing the following goals of therapy:

- Identify patients at high risk for developing glaucomatous optic nerve damage.
- Establish a baseline for future comparison (e.g., measurements of IOP, central corneal thickness, visual fields, optic disk, peripapillary, and retinal nerve fiber layer).
- Identify patients at an early stage who develop glaucomatous optic nerve damage (as manifested by typical or progressive optic nerve or nerve fiber layer abnormalities, or by glaucomatous visual field loss), and treat them according to the guidelines of the Primary Open-Angle Glaucoma, Preferred Practice Pattern.
- Identify a subset of glaucoma suspects who are at particularly high risk for developing glaucomatous optic nerve damage. This includes two groups of individuals:
    - Those without glaucomatous optic nerve damage, who can reasonably be expected to develop damage because of the presence of one or more clinical findings or risk factors
    - Those who may actually have early glaucomatous optic nerve damage but cannot be reliably diagnosed with currently available examination techniques because the findings are not conclusive
- Consider treatment of high-risk individuals to prevent or retard development of glaucomatous optic nerve damage.
- Minimize the side effects of treatment and its impact on the patient's vision, general health, and quality of life.
- Educate and involve patients in the management of the disease.

## TARGET POPULATION

Adults with normal-appearing, open anterior-chamber angles by gonioscopy with one or more of the following clinical findings or risk factors:

- Appearance of the optic disc or retinal nerve fiber layer that is suspicious for glaucomatous damage
- A visual field suspicious for glaucomatous damage
- Consistently elevated intraocular pressure (IOP) associated with normal appearance of the optic disc and retinal nerve fiber layer and with normal visual field test results
- Elevated IOP measurement
- Older age
- Family history of glaucoma
- African, or Hispanic/Latino descent
- Thinner central corneal thickness

### INTERVENTIONS AND PRACTICES CONSIDERED

#### Diagnosis

1. Comprehensive initial/baseline evaluation in addition to and with special attention to those factors that specifically bear upon the diagnosis, course, and treatment of glaucoma suspect.
2. Review of family, ocular, and systemic history
3. Physical examination including measurement of intraocular pressure (IOP) with a Goldmann tonometer, an assessment of pupillary function, slit-lamp biomicroscopic examination of the anterior segment, central corneal thickness measurement, gonioscopy, evaluation of the optic nerve head and retinal nerve fiber layer, evaluation of the fundus, and evaluation of the visual field

#### Management/Treatment

1. Periodic follow-up of glaucoma suspects with evaluation of intraocular pressure, visual fields, appearance of optic nerves, and presence of additional risk factors
2. Medical treatment of high-risk glaucoma suspects with intraocular pressure-lowering eye drops including:
    - Prostaglandin analogs and beta-adrenergic antagonists (most frequently used)
    - Alpha$_2$-adrenergic agonists, topical and oral carbonic anhydrase inhibitors, and parasympathomimetics (less frequently used)
3. Laser and filtering surgery (rarely indicated)
4. Patient education, counseling, and referral

### MAJOR OUTCOMES CONSIDERED

- Visual function
- Quality of life

## METHODOLOGY

### METHODS USED TO COLLECT/SELECT EVIDENCE

#### Searches of Electronic Databases

## DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

In the process of revising this document, a detailed literature search of MEDLINE was conducted on the subject of primary open-angle glaucoma suspect for the years 1999 to 2004.

## NUMBER OF SOURCE DOCUMENTS

Not stated

## METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

## RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Ratings of Strength of Evidence:

- Level I provides strong evidence in support of the statement. The design of the study allowed the issue to be addressed, and the study was performed in the population of interest, executed in such a manner as to produce accurate and reliable data, and analyzed using appropriate statistical methods. The study produced either statistically significant results or showed no difference in results despite a design specified to have high statistical power and/or narrow confidence limits on the parameters of interest.
- Level II provides substantial evidence in support of the statement. Although the study has many of the attributes of one that provides Level I support, it lacks one or more of the components of Level I.
- Level III provides a consensus of expert opinion in the absence of evidence that meets Levels I and II.

## METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

## DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

## METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

## DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The results of a literature search on the subject of primary open-angle glaucoma suspect were reviewed by the Glaucoma Panel and used to prepare the recommendations, which they rated in two ways. The panel first rated each

recommendation according to its importance to the care process. This "importance to the care process" rating represents care that the panel thought would improve the quality of the patient's care in a meaningful way. The panel also rated each recommendation on the strength of the evidence in the available literature to support the recommendation made.

### RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

#### Ratings of Importance to the Care Process

Level A, most important
Level B, moderately important
Level C, relevant, but not critical

### COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

### METHOD OF GUIDELINE VALIDATION

Internal Peer Review

### DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

These guidelines were reviewed by Council and approved by the Board of Trustees of the American Academy of Ophthalmology (September 2005).

## RECOMMENDATIONS

### MAJOR RECOMMENDATIONS

Ratings of importance to the care process (A-C) and ratings of strength of evidence (I-III) are defined at the end of the "Major Recommendations" field.

#### Diagnosis

The comprehensive initial glaucoma suspect evaluation (history and physical examination) includes all components of the comprehensive adult eye evaluation (Practice Patterns Committee, "Comprehensive adult medical eye evaluation," 2005) in addition to and with special attention to those factors that specifically bear upon the diagnosis, course, and treatment of glaucoma suspects. Completion of the evaluation may require more than one visit; the patient may need to return for further evaluation, including additional intraocular pressure (IOP) measurements, central corneal thickness determination, visual field assessment, and optic nerve head and nerve fiber layer evaluation and documentation.

#### History

The comprehensive initial evaluation for a glaucoma suspect includes a review of ocular, [A:III] family (Dielemans et al., 1994), [A:II] and systemic history. [A:III] It also includes an assessment of the impact of visual function on daily living and activities; [A:III] review of pertinent records [A:III] with particular reference to the status of the optic nerve, visual field, and IOP; [A:III] ocular surgery; [A:III] the use of ocular and systemic medications; [A:III] known local or systemic intolerance to ocular or systemic medications; [A:III] and the severity and outcome of glaucoma in family members, including history of visual loss from glaucoma (Tielsch et al., 1994; Wolfs et al., 1998). [B:III]

### Physical Examination

In completing the elements in the comprehensive adult medical eye evaluation, the physical examination specifically focuses on the following eight elements:

### Pupil

The pupils are examined for reactivity and an afferent pupillary defect (Kohn, Moss, & Podos, 1979; Brown et al., 1987). [B:II]

### Anterior Segment

A slit-lamp biomicroscopic examination of the anterior segment can provide evidence of physical findings associated with narrow angles, corneal pathology, or a secondary mechanism for elevated IOP such as pseudoexfoliation, pigment dispersion, iris and angle neovascularization, or inflammation (Practice Patterns Committee, "Comprehensive adult medical eye evaluation," 2005). [A:III]

### Intraocular Pressure

Intraocular pressure is measured in each eye, [A:III] preferably using a contact applanation method (typically a Goldmann tonometer) before gonioscopy or dilation of the pupil (Whitacre & Stein, 1993). [A:III] Time of day should be recorded because of diurnal variation (Whitacre & Stein, 1993). [C:III] The assessment may benefit from determining diurnal IOP fluctuations, either on the same day or on different days.

### Central Corneal Thickness

Measurement of central corneal thickness (pachymetry) aids the interpretation of IOP measurement results and stratification of patient risk (Gordon et al., 2002; Medeiros et al., 2003; Agudelo, Molina, & Alvarez, 2002). [A:II] Measurement methods include ultrasonic and optical pachymetry.

### Gonioscopy

The diagnosis of primary open-angle glaucoma (POAG) suspect requires careful evaluation of the anterior-chamber angle to exclude angle closure or secondary causes of IOP elevation such as angle recession, pigment dispersion, peripheral anterior synechiae, angle neovascularization, and trabecular precipitates (Tasman, 2004). [A:III]

### Optic Nerve Head and Retinal Nerve Fiber Layer

The preferred technique for optic nerve head and retinal nerve fiber layer evaluation involves magnified stereoscopic visualization (as with the slit-lamp biomicroscope), preferably through a dilated pupil. [A:III] Direct ophthalmoscopy is useful in some cases to complement magnified stereoscopic visualization; it is capable of higher magnification and can provide more comprehensive information of optic nerve detail. Red-free illumination may aid in evaluating the retinal nerve fiber layer. Inability to dilate (or the reason not to dilate) the pupil should be documented. [B:III]

Color stereophotography or computer-based image analysis of the optic nerve head and retinal nerve fiber layer are the best currently available methods of documenting optic disc morphology and should be performed (Caprioli, Prum, & Zeyen, 1996; Uchida, Brigatti, & Caprioli, 1996; Anton et al., 1997; Schuman et al., 1995; American Academy of Ophthalmology, 1999; Kamal, Bunce, & Hitchings, 2000; Chauhan et al., 2001; Poinoosawmy et al., 2000; Zangwill et al., "The confocal scanning laser," 2004; Zangwill et al., "Racial differences," 2004; Zeyen et al., 2003). [A:II] In the absence of these technologies, a nonstereoscopic photograph or a detailed drawing of the optic nerve head should be recorded, but these are less desirable alternatives to stereophotography or computer-based imaging (Shaffer et al., 1975). [A:III]

### Fundus

Examination of the fundus, through a dilated pupil whenever feasible, includes a search for other abnormalities that might account for visual field defects if present (e.g., optic nerve pallor, tilted disc, disc drusen, optic nerve pits, optic nerve hypoplasia, neurological disease, macular degeneration, and other retinal disease). [A:III]

### Visual Field

The preferred technique for evaluating the visual field is automated static threshold perimetry using either white-on-white standard automated perimetry or short-wavelength automated perimetry (SWAP, blue-on-yellow). [A:III] Careful manual combined kinetic and static threshold testing is an acceptable alternative when patients cannot perform automated perimetry reliably or if it is not available. [A:III] Causes of visual field loss other than glaucomatous optic neuropathy should be sought and assessed during the history review and physical examination (Anderson, 1989). [A:III] A repeat, confirmatory examination for field test results that are unreliable or show a possible new glaucomatous defect should be considered. [A:III] It is important to use a consistent examination strategy when visual field testing is repeated. [A:III]

## Management

Intraocular pressure is the only risk factor known to be amenable to treatment in glaucoma and glaucoma suspects. The decision to begin treatment to lower IOP in the glaucoma suspect is complex and depends on ocular, systemic, medical, and psychosocial factors. The determination is based on the ophthalmologist's analysis of the examination results and evaluation of the patient and the patient's

preferences. The number and severity of risk factors, prognosis, management plan, and likelihood that therapy, once started, will be long-term should be discussed, involving the patient and family in the decision process. [A:III] Whether or not a patient is treated, long-term monitoring for the development of glaucoma is essential [A:III]

The patient who is a POAG suspect has a chronic, asymptomatic condition that when treated may require frequent use of one or more expensive medications that may cause significant side effects. When treatment is appropriate, an effective regimen requires attention to its effect on IOP (potential impact on the condition) and toxicity (the drug-induced side effects), and the degree to which efficacy is reduced by nonadherence due to visual, physical, social, economic, or psychologic factors. The ophthalmologist should consider these issues in choosing a regimen of maximal effectiveness and tolerance to achieve the desired therapeutic response for each patient. [A:III]

### Target Intraocular Pressure

In managing the glaucoma suspect for whom treatment is indicated, the ophthalmologist strives to achieve a stable range of measured IOPs deemed likely to protect against optic nerve damage. The estimated upper limit of that range is considered the "target pressure." The target pressure will vary among patients, and in the same patient it may vary during the clinical course. For glaucoma suspects not being treated, the target pressure can be viewed as that pressure over which treatment would be recommended (i.e., the threshold for the initiation of treatment).

If therapy is initiated, the ophthalmologist assumes that the measured pretreatment pressure range is that which places the optic nerve at risk for damage. The Ocular Hypertension Treatment Study (which limited enrollment to patients with an IOP of 32 mmHg or below) used a target pressure 20% lower than the mean of several baseline IOP measurements and 24 mmHg or below. This seems an appropriate initial goal. [A:I] At present, there is no a priori way to determine the pressure below which optic nerve damage will be prevented in any particular patient. The initial target pressure is an estimate and a means toward the ultimate goal of protecting the optic nerve. Current IOP and its relationship to the target IOP should be evaluated at each visit. [A:III]

Failure to achieve and maintain a target pressure should trigger a reassessment of the treatment regimen in light of the potential risks and benefits of additional or alternative treatment. [A:III] In a glaucoma suspect, a definite deterioration in optic nerve structure or visual field (i.e., conversion from glaucoma suspect to glaucoma patient) indicates that the target pressure should be reduced [A:I] and the patient managed as described in the Primary Open-Angle Glaucoma Preferred Practice Pattern. [A:III]

### Therapeutic Choices

If the decision to begin treatment is made, the choice of initial therapy depends on numerous considerations, and discussion of treatment with the patient should include appropriate options. [A:III] In most instances, topical medications constitute effective initial therapy. The prostaglandin analogs and the beta

adrenergic antagonists are the most frequently used eye drops for lowering IOP in patients with glaucoma. Agents less frequently used include alpha$_2$ adrenergic agonists, topical and oral carbonic anhydrase inhibitors, and parasympathomimetics.

If a drug fails to reduce IOP, it should be replaced with an alternate agent until effective medical treatment is established. [A:III] If a single medication is effective in lowering IOP but the target pressure is not reached, combination therapy or switching to an alternative therapy may be appropriate.

The ophthalmologist should discuss the benefits and risks of medical treatment with the patient. [B:III] The ophthalmologist should assess the patient who is being treated with IOP-lowering medication for local and systemic side effects, toxicity, and possible interactions with other medications. [A:III] The ophthalmologist must be prepared to recognize potential life-threatening adverse reactions. [A:III] To reduce systemic absorption, patients should be educated about eyelid closure or nasolacrimal occlusion when applying topical medications. [B:II]

At each examination, medication dosage and frequency of use should be recorded. [A:III] Adherence to the regimen and the patient's response to recommendations for therapeutic alternatives or diagnostic procedures should be discussed. [A:III]

Laser and filtering surgery are rarely indicated in the treatment of glaucoma suspects.

### Follow-up Evaluation

Guidelines for follow-up frequency are specified in Table 2 in the original guideline document. These guidelines represent the consensus of an expert panel in the absence of conclusive scientific evidence in the literature. The interaction between patient and disease is unique for every patient, and management for each patient must be individualized with this in mind. [A:III]

#### History

The following interval history should be elicited during follow-up visits for POAG suspect patients:

- Interval ocular history [A:III]
- Interval systemic medical history and any change of systemic medications [B:III]
- Side effects of ocular medications if patient is being treated (Stamper et al., 1999) [A:III]
- Frequency and time of last IOP-lowering medications, and review of medication use if the patient is being treated [B:III]

#### Physical Examination

The following components of the physical examination should be performed during follow-up visits for POAG suspect patients:

- Visual acuity [A:III]
- Slit-lamp biomicroscopy [A:III]
- IOP and time of day of measurement [A:III]

Optic nerve head evaluation and documentation (Caprioli, Prum, & Zeyen, 1996; Shaffer et al., 1975; Lichter, 1976; Airaksinen, Tuulonen, & Alanko, 1992) and visual field evaluation (Smith, Katz, & Quigley, 1996; Katz et al., 1995; Heijl & Asman, 1989) should be performed at least at the recommended intervals listed in Table 2 of the original guideline document. Gonioscopy is indicated when there is a suspicion of an angle-closure component, anterior-chamber shallowing, anterior-chamber angle abnormalities, or if there is an unexplained change in IOP. [A:III] Gonioscopy should be performed periodically (i.e., 1 to 5 years). [A:III]

### Adjustment of Therapy

The indications for adjusting therapy are as follows: [A:III]

- Target IOP is not achieved.
- IOP is consistently below target, or visual field and optic discs remain stable for years. In this situation, a carefully monitored attempt to reduce the medical regimen is appropriate.
- Patient is intolerant of the prescribed medical regimen.
- Patient does not adhere to the prescribed medical regimen.
- Contraindications to individual medicines develop.

### Conversion from POAG Suspect to POAG

Any patient who shows evidence of optic nerve deterioration based on optic nerve head appearance, increased optic disc cupping, retinal nerve fiber layer loss, or visual field changes consistent with glaucomatous damage should be diagnosed as having developed POAG and treated as described in the Primary Open-Angle Glaucoma Preferred Practice Pattern (Glaucoma Panel, Preferred Practice Patterns Committee, "Primary open-angle glaucoma," 2005). [A:III]

## Provider and Setting

The performance of certain diagnostic procedures (e.g., tonometry, pachymetry, perimetry, fundus imaging, and photography) may be delegated to appropriately trained and supervised personnel. However, the interpretations of results and the medical and surgical management of disease require the medical training, clinical judgment, and the experience of an ophthalmologist.

## Counseling/Referral

- Patients should be educated about the disease process, the rationale and goals of intervention, the status of their condition, and the relative benefits and risks of alternative interventions so that they can participate meaningfully in developing an appropriate plan of action. [A:III]
- Patients should be encouraged to alert their ophthalmologists to physical or emotional changes that occur when taking glaucoma medications, if

prescribed. [A:III] The ophthalmologist should be sensitive to these problems and provide support and encouragement.

Definitions:

Ratings of Importance to Care Process:

Level A, most important
Level B, moderately important
Level C, relevant, but not critical

Ratings of Strength of Evidence:

- Level I provides strong evidence in support of the statement. The design of the study allowed the issue to be addressed, and the study was performed in the population of interest, executed in such a manner as to produce accurate and reliable data, and analyzed using appropriate statistical methods. The study produced either statistically significant results or showed no difference in results despite a design specified to have high statistical power and/or narrow confidence limits on the parameters of interest.
- Level II provides substantial evidence in support of the statement. Although the study has many of the attributes of one that provides Level I support, it lacks one or more of the components of Level I.
- Level III provides a consensus of expert opinion in the absence of evidence that meets Levels I and II.

### CLINICAL ALGORITHM(S)

A clinical algorithm for the management of patients with primary open-angle glaucoma suspect (POAG) is provided in the original guideline document.

## EVIDENCE SUPPORTING THE RECOMMENDATIONS

### REFERENCES SUPPORTING THE RECOMMENDATIONS

References open in a new window

### TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for most recommendations (see "Major Recommendations" field).

## BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

### POTENTIAL BENEFITS

Loss of vision from glaucoma may be retarded or prevented through early diagnosis and therapy.

### POTENTIAL HARMS

- Patients should be educated about eyelid closure and nasolacrimal occlusion when applying topical medications to reduce systemic absorption.
- Local and systemic side effects, toxicity, and possible interactions with other medications may occur in patients being treated with intraocular pressure (IOP)-lowering medication.

## QUALIFYING STATEMENTS

### QUALIFYING STATEMENTS

- Preferred Practice Patterns provide guidance for the pattern of practice, not for the care of a particular individual. While they should generally meet the needs of most patients, they cannot possibly best meet the needs of all patients. Adherence to these Preferred Practice Patterns will certainly not ensure a successful outcome in every situation. These guidelines should not be deemed inclusive of all proper methods of care or exclusive of other methods of care reasonable directed at obtaining the best results. It may be necessary to approach different patients' needs in different ways. The physician must make the ultimate judgment about the propriety of the care of a particular patient in light of all of the circumstances presented by that patient. The American Academy of Ophthalmology is available to assist members in resolving ethical dilemmas that arise in the course of ophthalmic practice.
- Preferred Practice Patterns are not medical standards to be adhered to in all individual situations. The Academy specifically disclaims any and all liability for injury or other damages of any kind, from negligence or otherwise, for any and all claims that may arise out of the use of any recommendations or other information contained herein.

## IMPLEMENTATION OF THE GUIDELINE

### DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

### IMPLEMENTATION TOOLS

Clinical Algorithm

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

## INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

### IOM CARE NEED

Living with Illness
Staying Healthy

## IOM DOMAIN

Effectiveness
Patient-centeredness

# IDENTIFYING INFORMATION AND AVAILABILITY

## BIBLIOGRAPHIC SOURCE(S)

Glaucoma Panel, Preferred Practice Patterns Committee. Primary open-angle glaucoma suspect. San Francisco (CA): American Academy of Ophthalmology (AAO); 2005. 25 p. (Preferred practice pattern). [107 references]

## ADAPTATION

Not applicable: The guideline was not adapted from another source.

## DATE RELEASED

1989 Sep (revised 2005)

## GUIDELINE DEVELOPER(S)

American Academy of Ophthalmology - Medical Specialty Society

## SOURCE(S) OF FUNDING

American Academy of Ophthalmology (AAO)

## GUIDELINE COMMITTEE

Glaucoma Panel; Preferred Practice Patterns Committee

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## FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

The following authors have received compensation within the past 3 years up to and including August 2005 for consulting services regarding the equipment, process, or product presented or competing equipment, process, or product presented:

Douglas E. Gaasterland, MD: IRIDEX -- Retainer.

Ronald L. Gross, MD: Alcon, Allergan, Ista, Merck, Pfizer -- Contract payments for research performed. Ad hoc consulting fees and reimbursement of travel expenses. Reimbursement of travel expenses for presentation at meetings or courses.

Henry D. Jampel, MD: Alcon, Pfizer -- Contribution to research or research funds. Allergan -- Financial interest in a company or companies supplying the equipment, process, or product presented. Pfizer -- Reimbursement of travel expenses for presentation at meetings or courses.

Bruce E. Prum, Jr., MD: Alcon -- Ad hoc consulting fees and reimbursement of travel expenses. Pfizer -- Contribution to research or research funds.

Other authors have no financial interest in the equipment, process, or product presented or competing equipment, process, or product presented.

## GUIDELINE STATUS

This is the current release of the guideline.

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## GUIDELINE AVAILABILITY

Electronic copies: Available from the American Academy of Ophthalmology (AAO) Web site.

Print copies: Available from American Academy of Ophthalmology, P.O. Box 7424, San Francisco, CA 94120-7424; telephone, (415) 561-8540.

## AVAILABILITY OF COMPANION DOCUMENTS

None available

## PATIENT RESOURCES

None available

### NGC STATUS

This summary was completed by ECRI on November 20, 2000. The information was verified by the guideline developer on December 20, 2000. This summary was updated on March 12, 2003. The updated information was verified by the guideline developer on April 2, 2003. This NGC summary was updated by ECRI on January 6, 2006. The updated information was verified by the guideline developer on February 9, 2006.

### COPYRIGHT STATEMENT



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### NGC DISCLAIMER

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